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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LONG, HEATHER R

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 07/19/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/786,036

Applicant(s)

SPENCER, SIMON H

Examiner

Heather R Long

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18, 19, 23 and 31-33 is/are rejected.
- 7) ☒ Claim(s) 20-22 and 24-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to because in Fig. 9 the "OUTPUT (A) (WITHOUT STRIPES)" should be --OUTPUT (2A) (WITHOUT STRIPES)--.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Fig. 6, reference character "5".

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 18, 19, 23, 31, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuribayashi (JP 02076481) (*references to page and line numbers are according to the translation*).

Regarding claim **18**, Kuribayashi discloses a camera, comprising: a sensor (12) for receiving radiation representative of a scene (page 5, lines 18-21); filter means (14) for attenuating the radiation reaching different spatial regions of the sensor (12) to different extents (page 5, line 23 – page 6, line 3); and decoding means (15) for combining contributions to an output of the sensor (12) from the different spatial regions (page 6, lines 4-15), to produce a camera output of extended dynamic range (page 6, line 23 - page 7, line 23).

Regarding claim **19**, Kuribayashi discloses a camera, in which the sensor (12) is operative for producing the output representative of lines of an image of the scene (page 5, lines 18-21), and in which the filter means (14) comprises stripes orientated so that lines of the stripes are inclined to the lines of the image in that they form vertical stripes (see Fig. 2).

Regarding claim **23**, Kuribayashi discloses a camera, in which the stripes are opaque (Constitution; page 5, line 25 – page 6, line 3).

Regarding claim **31**, Kuribayashi discloses a camera, in which the sensor (12) is a charge coupled device (page 5, lines 18-21).

Regarding claim **33**, Kuribayashi discloses a camera, comprising: a sensor (12) for receiving radiation representative of a scene (page 5, lines 18-21); filter means (14) for attenuating the radiation reaching different spatial regions of the sensor (12) to different extents (page 5, line 23 – page 6, line 3); and decoding means (15) for combining contributions to an output of the sensor (12) from the different spatial regions, to produce a camera output of expanded contrast (It is inherent that the camera produces an output of expanded contrast because high intensity light is prevented from blurring the image) (page 6, line 23 - page 7, line 23).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuribayashi as applied to claim 1 above.

Regarding claim **32**, claim 32 differs from Kuribayashi in that claim 32 further requires the sensor to include an image intensifier. Official Notice is taken that it is well known to use an image intensifier with the sensor in order to

amplify the image signal for viewing low light level conditions. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an image intensifier with the sensor to amplify the visible light from an image so that a dimly lit scene can be viewed by a camera or by an eye.

Allowable Subject Matter

7. Claims 20-22 and 24-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: prior art fails to teach or fairly suggest a camera in which the sensor is operative for producing the output representative of lines of an image of the scene, and in which the filter means comprises stripes orientated so that lines of the stripes are inclined to the lines of the image, wherein...

- a. ...the stripes are inclined at an angle within a range of $\pm 45^\circ$ to $\pm 80^\circ$ to the lines of the image (claim 20).
- b. ...the stripes are at approximately $\pm 45^\circ$ to the lines of the image (claim 21).
- c. ...the stripes are neutral density stripes (claim 22).
- d. ...the stripes are colored (claim 24).
- e. ...the regions between the stripes are polarizing (claim 25).
- f. ...the regions between the stripes are transparent (claim 26).

g. ...there is a plurality of sets of stripes, each having different attenuating properties and being inclined at different angles to the lines of the image (claim 27).

h. ...the decoding means is operative for combining successive lines of the image to reinforce the image and cancel the contributions to an intensity of the stripes (claim 28).

i. ...the decoding means is operative for combining successive lines of the image to cancel the contributions to an intensity of the image and reinforce an intensity of the stripes (claim 29).

j. ...the decoding means comprises at least one comb filter (claim 30).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Dischert (U.S. Patent 4,030,118) discloses a camera wherein a striped spatial color encoding filter assembly spatially encodes colored light from a scene onto a photosensitive surface. The filter assembly comprises a plurality of superimposed gratings for encoding a plurality of colors, at least one grating having its stripes disposed angularly from the direction of scanning lines on the photosensitive surface such that a color representative carrier wave of different phase is produced during successive scanning intervals. The plurality of color representative carrier waves produced by scanning of the imaged gratings on the

photosensitive surface may have the same frequency during any line scanning interval thus minimizing the spectrum required to convey full color information, and are separated from each other by comb filter apparatus for producing different color representative signals.

- b. Macovski (U.S. Patent 3,566,013) discloses color television camera of a type utilizing a color-encoding filter in the light path of an image pickup tube to derive signals representative of the color components of an image, crosstalk of the higher frequency luminance signals into the chrominance signals adversely affects the quality of the color representative signals. The encoding filter may comprise strips of several primary colors with transparent areas for passing the primary color signals and the luminance signal, or strips of subtractive primary colors alternating with gray strips to yield color difference signals and the luminance signal. The stripes may be also transparent or neutral density stripes.
- c. Larsen (U.S. Patent 3,681,519) discloses in a Kell-type single-tube color camera system, an optical spatial frequency filter in the form of an asymmetrical rectangular wave phase-only diffraction grating is disposed between the object scene and the striped color filters.
- d. Macovski (U.S. Patent 3,566,017) discloses that each of the (B-Y) and (R-Y) sideband signals of two suppressed color carrier waves derived from a camera tube having a spatial color difference signal encoding filter is envelope detected and positive and negative polarities of the detected signal are developed, the proper polarity being selected to produce an unambiguous output

signal by a switch controlled by a correct polarity indicating signal. The color filter gratings used in such systems comprise, for example, strips of subtractive color selective filter material spaced apart by strips of transparent material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heather R Long whose telephone number is 703-305-0681. The examiner can normally be reached on Mon. - Thurs.: 7:00 am - 4:30 pm, and every other Fri.: 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HRL
July 6, 2004



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